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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,849	03/01/2002	Serhan Dagtas	PHUS020040	4304

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BRIARCLIFF MANOR, NY 10510

EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,849

Applicant(s)

DAGTAS ET AL.

Examiner

Donald L. Storm

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Hoffberg

2. Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Hoffberg et al. [US Patent 5,774,357] using the same rationale as in the prior Office action (mailed March 21, 2005).

Claim Rejections - 35 USC § 103

Hoffberg and Lamb

3. Claims 1, 3, 5-8, and 10-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffberg et al. [US Patent 5,774,357] in view of Lamb et al. [US Patent 5,437,050], both already of record.

4. Regarding claim 10, Hoffberg [at Fig. 20] describes an audio recorder-player by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

N number of sources greater than 1 that transmit N signals generated by M number of tuners greater than 1 [see Fig. 25, items 2501, 2502, 2503, and their descriptions, especially at column 66, lines 50-53, of a plurality of broadcasts providing received video signals by a plurality of tuners];

an analyzer that extracts RxN number of signal characteristics from the signals [see Fig. 25, items 2501, 2502, 2503, 2504, and their descriptions, especially at column 68, lines 24-28, of

the computer control recognition and characterization processes that form an extracted feature storage matrix and at column 67, lines 46-49 of the plurality of tuners monitoring the channels];

a memory that stores the signal characteristics [see Fig. 25, items 2503, and their description especially at column 68, lines 23-28, of particularly the second media storage of the extracted feature storage matrix of the recognition and characterization processes for analyzed material, as explained in more detail by Fig. 24, items 2407, 2413, and their descriptions, especially at column 64, lines 43-62, of the characterization unit having a local database for storing information];

output circuitry that reproduces a signal corresponding to one of the signals responsive to selection of at least one of the signal characteristics [see Fig. 25, items 2503, 2504, 2507, 2508, and their descriptions, especially at column 67, lines 58-67, of the preference and event correlator selecting a broadcast when the correlation to its reference profile is high and transferring the information in intermediate storage to the permanent storage device];

said signal characteristics including words [at column 48, lines 42-46, as the broadcast program may be classified by words];

the words are extracted from speech in the segments [see Fig. 25, items 2504, 2505, and their descriptions, especially at column 68, line 29-column 69, line 1, of software running on processors serving voice recognition of the interface];

the sources, signals, signal characteristics, broadcast signal, and information in intermediate storage are audio [at column 42, lines 65-67, as the input in the video input includes the audio].

Hoffberg [at column 43, lines 4-15] describes that features are extracted from the signals for matching by correlators for recognition, and [at column 67, lines 22-64] that the features may be correlated with database profiles of music using known, available pattern recognition algorithms. However, Hoffberg does not explicitly describe signal characteristics including tempo, tone, and energy for music.

Lamb [at Fig. 1] also describes an audio recorder-player, which has similar content and functionality to Hoffberg's, by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

N number of sources greater than 1 that transmit N signals generated by M number of tuners greater than 1 [see Fig. 1, items 40, 35, and their descriptions, especially at column 4, lines 59-65, of each different broadcast station's audio signal of 4 audio signals that enters via 4 tuners];

an analyzer that extracts RxN number of signal characteristics from the signals [see Fig. 1, items 55, and their descriptions, especially at column 5, lines 26-29, of each activity recorder converting an audio signal into a coded form as activity matrix input];

a memory that stores the signal characteristics [see Fig. 1, items 340, and its descriptions, especially at column 5, lines 31-32, of the hard disk storage of the activity matrix input];

output circuitry that reproduces a signal corresponding to one of the signals responsive to selection of at least one of the signal characteristics [see Fig. 1, items 45, 50, 60, 90, 95, and their descriptions, especially at column 8, lines 54-67, of the discovery device playing back the audio input queued by the audio extractor for portions of the audio in correspondence to a subset of activity matrix input];

the sources, signals, signal characteristics, and activity matrix input on hard disk and data tape audio [at column 4, lines 45-46, as the monitoring systems refers to audio broadcasts];

for music [at column 16, lines 57-68, as music audio items to be recognized in audio signals];

a selected characteristic corresponds to tempo [at column 21, lines 43-66, as the a activity matrix contains tempo distribution];

a selected characteristic corresponds to tone and a selected characteristic corresponds to energy [at column 22, lines 32-47, as the musical key description describes the spectral distribution].

As indicated, Lamb shows that audio signal characteristics including tempo, tone, and energy for music was known to artisans at the time of invention. Since Lamb [at column 19, lines 1-3] also points out that frequency distributions of tempo and musical key have the advantage of yielding good results for characterization, it would have been obvious to one of ordinary skill in the art of classification procedures at the time of invention to include the at least the concept of words described by Hoffberg for speech recognition and the concept of tempo and musical key . spectra described by Lamb, because the actual selection of the features that are appropriate for recognition varies with the characteristics or the input data, the classification procedures, and the intended targets to provide the most reliable results of recognizing input of different characteristic types.

5. Regarding claims 11-14, Hoffberg and Lamb describe and make obvious the included claim elements by dependency as indicated elsewhere in this Office action. Hoffberg further describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed March 21, 2005).

6. Claim 21 sets forth a process with limitations associated with using the system recited in claim 10. Because Hoffberg and Lamb describe and make obvious the similar limitations as indicated there, this claim thus is anticipated accordingly.

7. Regarding claims 22-23 and 25-27, Hoffberg and Lamb describe and make obvious the included claim elements by dependency as indicated elsewhere in this Office action. Hoffberg further describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed March 21, 2005).

8. Regarding claim 24, Hoffberg and Lamb describe and make obvious the included claim elements by dependency as indicated elsewhere in this Office action. Lamb further describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed March 21, 2005).

9. Claim 15 sets forth limitations similar to limitations set forth in claim 21. Hoffberg and Lamb describe and make obvious the limitations as indicated there. Hoffberg also describes additional limitations as follows:

storing the audio signals [at column 66, lines 52-66, as the received broadcasts are stored in intermediate storage].

10. Regarding claims 16-17 and 19-20, Hoffberg and Lamb describe and make obvious the included claim elements by dependency as indicated elsewhere in this Office action. Hoffberg further describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed March 21, 2005).

11. Claim 18 sets forth additional limitations similar to limitations set forth in claim 24. Lamb describes the additional limitations as indicated there.

12. Claim 1 sets forth limitations similar to limitations set forth in claim 10, where the tuners, analyzer, memory, and circuitry provides the means and the plurality of the M, the N, and the R describes at least two. Hoffberg and Lamb describe and make obvious the limitations as indicated there. Hoffberg also describes additional limitations as follows:

storing the audio signals [at column 66, lines 52-66, as the received broadcasts are stored in intermediate storage].

13. Regarding claims 3 and 5-8, Hoffberg and Lamb describe and make obvious the included claim elements by dependency as indicated elsewhere in this Office action. Hoffberg further describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed March 21, 2005).

Hoffberg and Lamb and Harvey

14. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffberg et al. [US Patent 5,774,357] in view of Lamb et al. [US Patent 5,437,050] and Harvey [US Patent 4,694,490], all already of record.

15. Claim 2 includes the limitations of claim 1. Hoffberg and Lamb describe and make obvious those limitations as indicated there. Hoffberg gives audio-video records and broadcasts to a TV receiver and a VCR receiver as exemplary embodiments. Hoffberg does not describe a radio as a receiver of broadcasts. In particular, neither Hoffberg nor Lamb describes the recorder-player is included in a radio.

Hoffberg and Harvey describe and make obvious the additional limitations using the same rationale as in the prior Office action (mailed March 21, 2005).

16. Claim 4 includes the limitations of claim 1. Hoffberg and Lamb describe and make obvious those limitations as indicated there. Although Hoffberg [at column 65, lines 22-36] gives connection to cable broadcasts as a source of signals, Hoffberg does not describe details of a connection to the cable broadcasts. Hoffberg does not describe a set-top box, and in particular, neither Hoffberg nor Lamb describes including the interface system in a set-top box.

Hoffberg and Harvey describe and make obvious the additional limitations using the same rationale as in the prior Office action (mailed March 21, 2005).

Hoffberg and Li et al.

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffberg et al. [US Patent 5,774,357] in view of Dongge Li, et al., "Classification of General Audio Data for Content-based Retrieval," PATREC, Article No. 2700, copyright 2000, pp. 1-12 (Li et al.), both already of record.

18. Regarding claim 9, Hoffberg [at Fig. 20] describes an audio recorder-player by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

at least two sources to generate first as second signals by means for tuning greater than 1 [see Fig. 25, items 2501, 2502, 2503, and their descriptions, especially at column 66, lines 50-53, of a plurality of broadcasts providing received video signals by a plurality of tuners];

means for generating N signal characteristics [see Fig. 25, items 2501, 2502, 2503, 2504, and their descriptions, especially at column 68, lines 24-28, of the computer control recognition and characterization processes that form an extracted feature storage matrix];

N audio signal characteristics [at column 66, line 66, as indicia for a weather broadcast, at column 67, line 57, as profile of a musical performance, at column 43, lines 4-7, as features including sound, movement, objects, correlated sound and object, background, etc.];

means for storing both first and second signals [at column 66, lines 52-66, as the received broadcasts are stored in intermediate storage];

means for storing both the first and second signal characteristics [see Fig. 25, items 2503, and their description especially at column 68, lines 23-28, of particularly the second media storage of the extracted feature storage matrix of the recognition and characterization processes for analyzed material, as explained in more detail by Fig. 24, items 2407, 2413, and their descriptions,

especially at column 64, lines 43-62, of the characterization unit having a local database for storing information];

means for reproducing one of the first and second signals responsive to selection of at least one of the N signal characteristics [see Fig. 25, items 2503, 2504, 2507, 2508, and their descriptions, especially at column 67, lines 58-67, of the preference and event correlator selecting a broadcast when the correlation to its reference profile is high and transferring the information in intermediate storage to the permanent storage device];

the sources, signals, signal characteristics, broadcast signal, and information in intermediate storage are audio [at column 42, lines 65-67, as the input in the video input includes the audio].

However, Hoffberg does not explicitly describe characteristics including silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise.

Like Hoffberg, Li et al. [at page 10, column 1] describes audio characterization suitable for video indexing and analysis and speech recognition]. Li et al. also describes:

characteristics including silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise [at abstract, as seven categories of silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise to classify audio segments].

As indicated, Li et al. shows that characteristics including silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise were known to artisans at the time of invention. Since Li et al. [at page 4, column 2] also points out that general audio data contains segments from many classes has the advantage of avoiding adverse classification performance, it would have been obvious to one of ordinary skill in the art of audio recognition at the time of invention to include the concepts described by Li et al. at least characteristics including silence, single speaker speech, music,

environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise for Hoffberg's classification of audio data into categories because segments from many classes has the advantage of avoiding adverse classification performance that can result from data only of fewer categories.

Response to Arguments

19. The prior Office action, mailed March 21, 2005, objects to the title and rejects claims under 35 USC § 102 and § 103. The Applicant's arguments and changes in AMENDMENT, filed June 14, 2005, have been fully considered with the following results.

20. With respect to objection to the title, the changes entered by amendment are sufficiently descriptive. Accordingly, the objection is removed.

21. With respect to rejection of claims under 35 USC § 102 and § 103, citing Hoffberg alone and in combination, the Applicant's arguments appear to be as follows:

a. The Applicant's argument appears to be that the buffer memories 2503 that the Examiner cited store only tuner output, not storing Hoffberg's [at column 68, lines 21-28] extracted feature storage matrix. This argument is not persuasive because Hoffberg's Intermediate Storage 2503 that Hoffberg discusses with Example 2 have to be considered along with overall discussion of Example 2 that includes Fig. 24, items 2407, 2413, and their descriptions [at column 64, lines 43-62] of the characterization unit having a local database for storing information for the characterization unit's operation.

b. The Applicant's argument appears to be that Hoffberg's extracted feature storage matrix is not stored with the original signal from which the features are extracted. This argument

is not persuasive because the features upon which the Applicant's argument relies are not recited in the rejected claims. This argument is not persuasive because Hoffberg's Fig. 24, items 2407, 2413, and their descriptions [at column 64, lines 43-62] of the characterization unit indicate a local database for storing information for the characterization unit's operation.

However, with respect only to rejection of claims 1, 10, 15, 21, and claims dependent to them under 35 USC § 102 and § 103 citing Hoffberg alone and in combination, the changes entered by amendment include the audio signal characteristics having tempo, tone, and energy for music.

The references Hoffberg and Harvey do not describe or make obvious that limitation. Accordingly, the rejections of independent claims 1, 10, 15, 21, and claims dependent to them, under 35 USC § 102 are removed. Please see new grounds of rejection applied to address the new claim element: audio signal characteristics having tempo, tone, and energy for music.

The rejections of claims 9 and 28 are maintained.

22. With respect to rejection of claims under 35 USC § 102 citing Lamb, the changes entered by amendment include the audio signal characteristics having words extracted from speech.

The reference Lamb does not explicitly describe that limitation. Accordingly, the rejections are removed. The Applicant's assertions with respect to Lamb have been considered, but they are moot in view of the new claim element. Please see new grounds of rejection applied to address the new claim element: words extracted from speech.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

24. Any response to this action should be mailed to:

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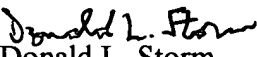
(571) 273-8300, (please mark "EXPEDITED PROCEDURE"; for formal communications and for informal or draft communications, additionally marked "PROPOSED" or "DRAFT")

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25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is

(571) 272-7614. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>.


Donald L. Storm
August 4, 2005


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER